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Visit by DFID Central Research Team  
to Arusha and Hai

COLECCION HISTORICA



August 2003



Sejian Agricultural Research Institute  
P. O. Box 6024  
Arusha, Tanzania



Adventist  
Development and  
Relief Agency  
Tanzania

ADRA

ADRA-Tanzania  
P.O. Box 1121  
Arusha, Tanzania



Hai District Council  
DALDO's Office  
P.O. Box 27  
Hai, Kilimanjaro





**65795**  
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**Farmer group activity reports for the DFID  
Crop Protection Programme (CPP) Bean  
IPM Promotion Project in eastern and  
southern Africa**

**Written and Edited by  
E.M. Minja and H.A. Mziray**

**For distribution to Village Information  
Centres (VICs) in bean growing areas in  
northern Tanzania**



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## **Introduction**

The Bean IPM Promotion Project in eastern and southern Africa is funded by the United Kingdom Department for International Development (DFID) Crop Protection Programme (CPP). DFID NARSIS Database and Knowledge Manager, Central Research Team (Dr Yvonne Thomas) made a three day visit to northern Tanzania (Arusha and Kilimanjaro regions) in mid August 2003.

While in Arusha, she visited Selian Agricultural Research Institute (SARI), CIAT and the East and Central Africa Bean Research Network (ECABREN), the CPP armyworm IPM project at Tengeru Pest Control Services of the Ministry of Agriculture and Food Security and one of the two NGO collaborators in the bean project - the Adventist Development and Relief Agency

(ADRA) at Usa. The visit to Kilimanjaro involved Hai district where discussions were held with the District Agriculture and Livestock Development Officer (DALDO) and bean IPM farmer groups at two locations (Mungushi and Sanya Juu).

## **Objective**

To meet with some of the institutes involved in DFID-funded research work in order to assist with designing a new cross-sectoral research strategy for DFID.

## **Visits to different institutions**

### **Selian Agricultural Research Institute (SARI)**

A brief introductory meeting was held with the northern zone research director at Selian (Dr A Mbwana) and his deputy (Mr C Lyamchai). CIAT and ECABREN are housed at Selian with the



national bean research programme. The main focus for DFID is on research that caters for more than one country. SARI research staff personnel have benefited from regional DFID staff training in research leadership and proposal writing skills.

Some SARI researchers have also acquired skills in farmer participatory crop breeding through the former DFID funded regional bean project on farmer participatory plant breeding (FPPB).

Dr Mbwana summarised his activities in banana research and improvement where arrangements have been made to import improved (disease resistant and marketable types) tissue culture plantlets from South Africa for distribution to farming communities in Tanzania. One of the main collaborators on banana research in northern Tanzania is the Adventist Development and Relief Agency (ADRA).

**Armyworm IPM project at Tengeru** - The site coordinator for the project (Mr W Mushobozi) was away on travel but a quick visit was made to the laboratory where one of his two technical staff (Ms Esther Kilonzo) was adequately informed of project activities. These included forecasting and monitoring, collection and preservation of a locally occurring NPV strain, maintaining a laboratory culture of armyworm and use of neem seed powder for armyworm control.

**Adventist Development and Relief Agency (ADRA)** - ADRA's activities in northern Tanzania focus on food security and income generation for small-scale farmers particularly in Arumeru (Arusha) district. As an NGO, ADRA has been collaborating with CIAT Arusha in the translation and editing of extension materials, training farmers and extension personnel, farmer field days and dissemination of extension materials to

bean farmers in Arumeru district. ADRA also collaborates with SARI in the research and dissemination of improved banana cultivars to farmers in the district. Beans form a major component in the coffee-banana-maize-vegetable-livestock farming systems of the medium and high altitude areas of eastern, central and southern Africa.

**Hai district** - The Hai district agriculture and livestock development officer - DALDO (Dr Edward Ulicky) stated that Hai district is on the western slopes of Mount Kilimanjaro covering an area of 2068 km<sup>2</sup> with a total population of 260,000 people. There are 14 wards and 120 trained agricultural extension staff. The major crops are maize, beans, vegetables, bananas and coffee. The majority of farmers also keep livestock (cows, goats, sheep, pigs, chicken, etc.). Livestock at the high altitude coffee/banana



belt is kept at zero grazing while some free range and zero grazing are common in the medium and low altitude maize/beans belt. Two village sites were visited:

- **Mungushi village** - Most of this village is at about 1000 metres above sea level. There are 4 active farmer groups in the village (Jikomboe, Kwa Mkuu Primary School, Mkombozi and Kwa Nkya). Discussions were held with three farmer members (1 woman, 3 men) of one of the newly formed (one year) farmer groups (Jikomboe) at the village. The other members of the group had gone to the Mosque for prayers because it was a Friday. The village extension officer (Mr C. Massawe) was assisting the farmer group with the evaluation (weighing, sorting and storage) of their different bean genotype grain.

harvest from the various treatments that they experimented with for the first season.



As one strategy for technology dissemination, the 3 farmer groups have developed a tradition of establishing demonstration and learning plots and organising field days where other farmers and various stakeholders participate in learning and evaluation of different technologies. Such an event was implemented at the end of July 2003 with the participation of about 300 people from different locations. These included farmers from other parts of Hai, Arumeru and Babati districts,

extension officers from the 3 districts, researchers, policy makers - from the Ministry of Agriculture, zonal, regional and district offices, political leaders from various offices, NGOs, religious groups and the private sector.

Jikombœ farmers discussed the evolvement of their group a year ago after attending a field day at a neighbouring bean IPM group site. In



addition to establishing the demo and learning plots, individual farmers also tested the different IPM strategies (sowing date, improved bean genotypes,

wood ash, cow urine and neem seed powder) in their own fields.

One of the 3 farmers confirmed that he harvested a higher and better quality bean crop from the area of his field where he had used cow urine compared to the rest of the field. While holding the samples of beans from the group demonstration and learning plots, the 3 farmers confirmed without doubt that timely (early) planting in the season resulted in higher and



better quality bean grains compared to late planting. When asked if they will continue with

group and individual use of the technologies, the farmers confirmed that they have started well and will be keen to strengthen and expand their



group and individual activities on beans and in other sectors of their farming system.

- **Sanya Juu** - About 15km northwest of Mungushi at an altitude of 1500 metres. It covers an area of 1100 km<sup>2</sup> with a population of 5140 (3000 women, 2140 men) of whom 3000 are farmers. Common crops include maize, beans, different vegetables, coffee, bananas and fruits. A number of large estate farms (coffee, beans and livestock - dairy and beef) surround the village. Sanya Juu has 34 farmer groups of which 15 are most active. Three of the 15 farmer groups were represented in the discussions (Sanya Mjini, Sanya Hoyee and Merali Juu).



Sanya Juu has been the focal point for the bean IPM project. In particular, Sanya Hoyee was the initiating group for the participatory research and dissemination approach that has led to the formation of 54 farmer groups in the



district. The 3 groups demonstrated with 14 bean genotypes (bush and climbing types)

in the March - July 2003 planting season. Group members also experimented with pigeonpea, sunflower, soybean, cowpea, green gram, high protein maize, grey leaf spot tolerant maize and *Mucuna* spp. (as a cover, fodder and soil nutrient enriching legume crop). In the bean IPM learning plots they experimented with improved and high yielding bean varieties, pest

tolerant genotypes, cow urine, wood ash, soap + kerosene, neem seed powder and neem seed oil emulsion. A field day was organised at the end of June as a dissemination tool and 250 people from various institutions (farmers, researchers, extension officers, school teachers, local policy makers, NGOs, church groups, women groups, traders, private companies, etc.) participated.

Group members have been involved in improved bean seed multiplication. This is mostly carried out at individual farmer homestead gardens during the short rain season (October - January). Such seed is then planted in the long season rains (March - July) when most other crops are also established. Some of the seed is sold to neighbours and relatives while the excess is sold at the local market or to NGOs with interest on bean seed

(e.g. the World Vision - Sanya ADP that started buying seed from farmers in October 2002) for distribution to other farmers in the district on agreed repayment terms.

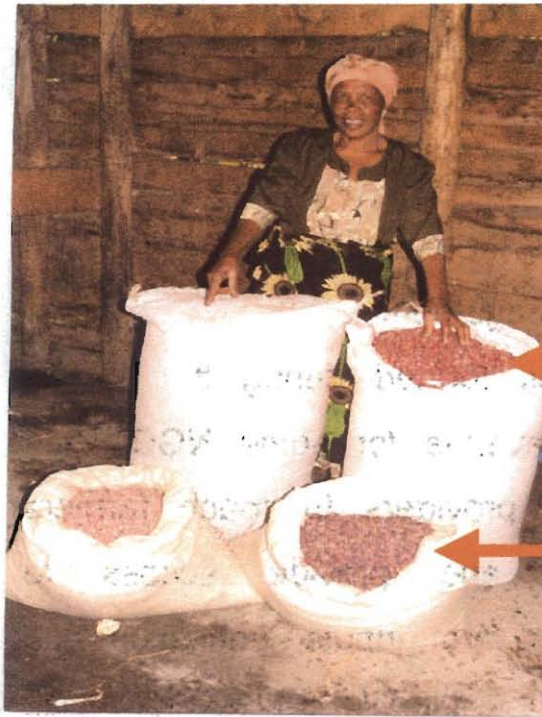
## **Benefits from the project**

The benefits that project participating farmers pointed out to the visitor include:

- Gain in knowledge and experience in major bean pest ecology and management strategies (including the use of traditional plant and animal products, improved crop varieties and cultural practices)
- Cross visits organised through the project have exposed farmers to learning by doing and enabled them to adopt diversified farming systems (in both crops and livestock)

- The project has facilitated farmer groups to gain knowledge on integrated soil nutrient and water management
- Farmer groups were linked to activities on armyworm management
- Farmer groups formed during the project provided an avenue for some NGOs and other service providers to reach farmers more easily and provide access to information on farm inputs, education and health issues (e.g. the World Vision for maize and bean seed, fertilizers, storage bins, health and school requirements, etc.; TechnoServe for pigeonpea seed and markets, etc.)
- Farmers have used the inputs and improved agronomic practices that have enabled them to increase crop yields for food and family income. The extra income has helped in paying school fees for their children and in meeting other family needs.



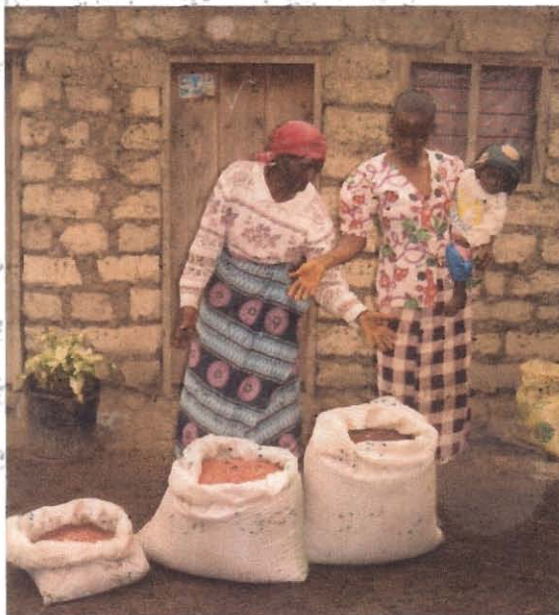


Mama Felista Moshi compares harvests from improved and local bean genotypes

High yields from 2 improved bean varieties

Low yields from 2 local bean cultivars

Pudesiana Masawe, her mother and baby have more beans for food





- Farmers' confidence and ability to demand services has increased tremendously during the life of the project. Most farmers are keen to learn more and disseminate IPM message to other farmers and the wider community. Two farmers from Hai have each represented their district and the IPM project in two different regional workshops in June and July 2003.



- The 54 farmer groups in Hai district were facilitated by World Vision - Sanya ADP and district authorities to unite, form and register a community based organization (Union of

Development Groups in Hai District - MUVIMAHA) through which farmer groups can access credits and inputs.

## **Constraints**

Farmers pointed out the following as major constraints to production at their locations:

- Unreliable weather conditions (extended periods of drought, unreliable rainfall patterns, etc.)
- Occurrence of new pests and diseases on crops and livestock
- Shortage of land (most farm holdings are less than 0.5 ha)
- Infertile soils
- Livestock breeds with low production potential
- Unreliable markets for farm products (crops and livestock)
- High prices for farm inputs and low prices for farm produce

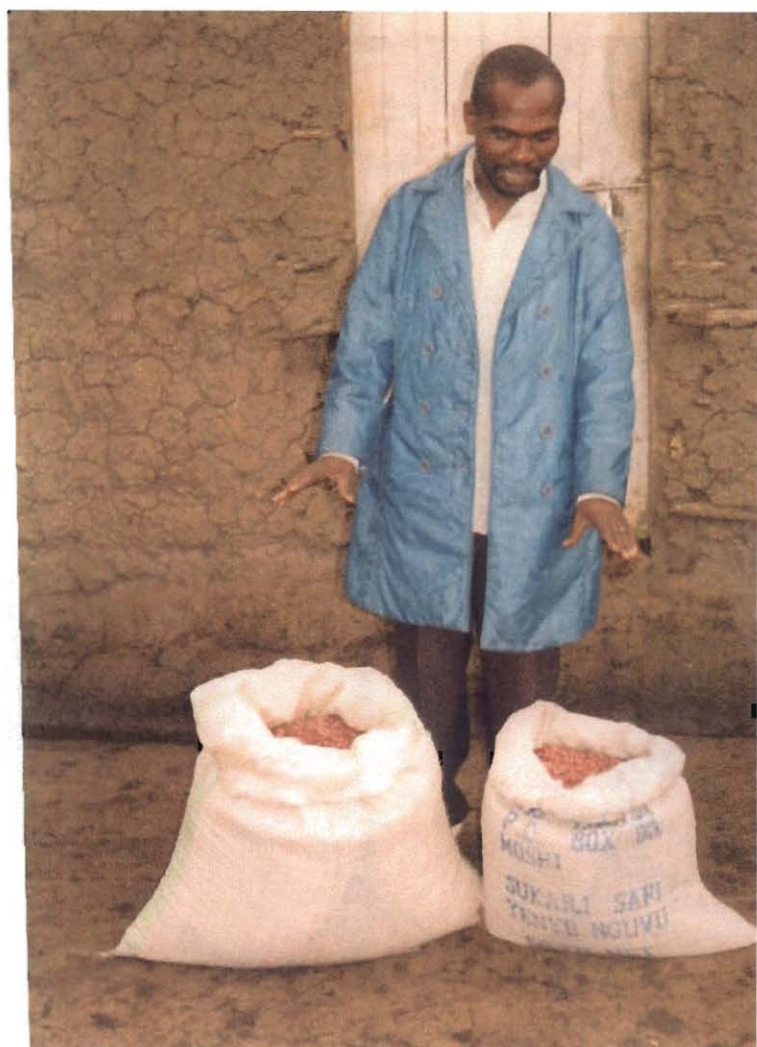
- Theft of crops in far off fields
- Reduction of farm family resources due to HIV/AIDS.

## **Future plans**

Farmer groups have planned to maintain the integrity of their groups and activities because they now realize the benefits of the participatory approach in solving various production problems. The participatory group approach has enabled Hai bean IPM farmers to unite and register their association (MUVIMAHA), through which they are able to acquire such services as farm inputs and credits. In addition to strengthening their groups, they have plans to seek facilitation and implement the following:

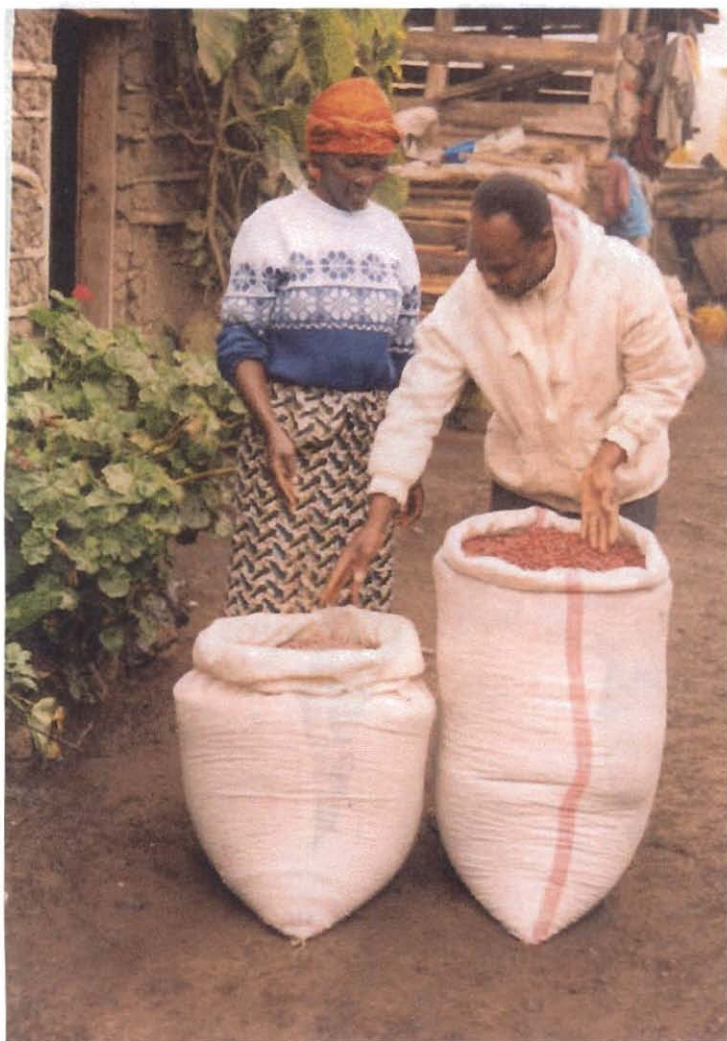
- Acquire knowledge on market oriented crop and livestock production

- Improve their skills in quality bean seed production at village level
- Continue to research on pest and disease problems on crops and livestock
- Organise to set up working village information centres (VICs)
- Continue to sensitise local leaders and other farmers to organise themselves into research and dissemination groups
- Seek for facilitation to conduct visits to other locations to disseminate, share, learn and exchange experiences with farmers in other communities.



An IPM participating farmer with improved bean genotype harvests in 2003 season





Reminiska and her husband Dan Moshi with part of their improved bean variety harvests



**DALDO Hai  
uproot bean  
plant at a  
farmer's  
home seed  
garden,  
Sanya Juu**

**DALDO and  
ECABREN  
Coordinator  
(in yellow  
shirt) at a  
farmer's seed  
garden**



**Mungushi  
farmer field  
day -  
stakeholders  
evaluate  
performance  
of different  
bean  
genotypes**





Mungushi  
(Jikomboe)  
Farmer field  
day, July 2003

Mungushi (Kwa  
Mkuu Primary  
School) Farmer  
field day, July  
2003



Stakeholders  
evaluate  
performance of  
IPM strategies  
at Mungushi  
(Jikomboe)  
Farmer field  
day, July 2003







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The Report on Arusha and Hai - DFID Central Research Team Visit is produced by the International Centre for Tropical Agriculture (CIAT)

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